

West Roxbury to Needham Reliability Project

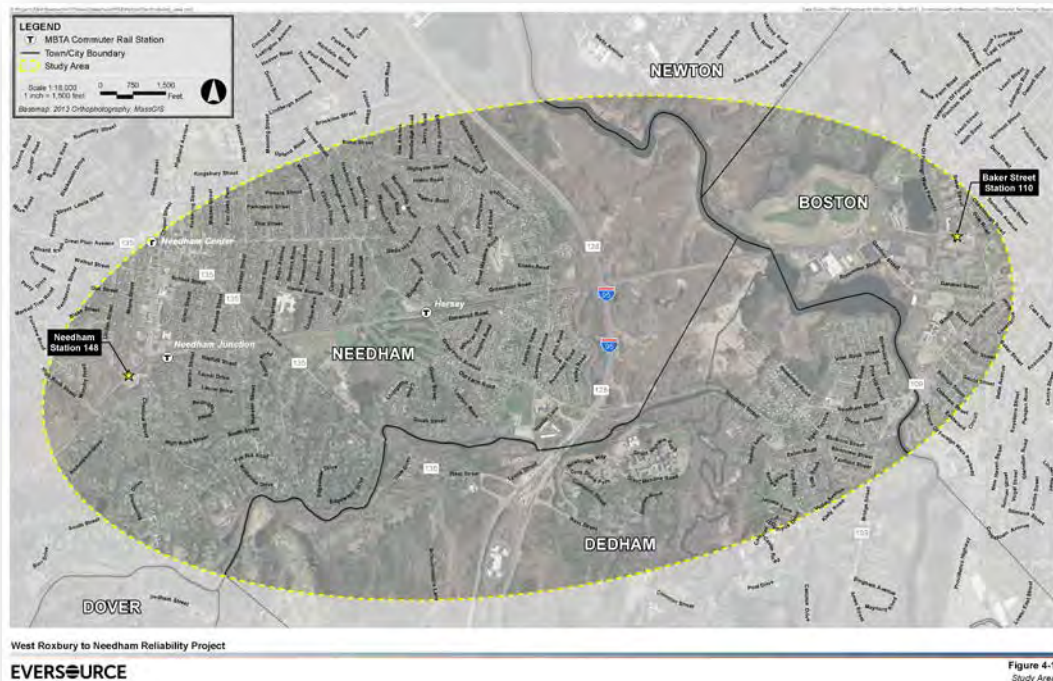
Town of Needham Board of Selectmen Presentation

March 8, 2016

- Greater Boston Energy Solutions
- West Roxbury to Needham Reliability Project
 - ✓ Energy Solutions
 - ✓ Project Need and Benefits
 - ✓ Project Overview
 - ✓ Route Analysis Process
 - ✓ Environmental Permitting
 - ✓ Schedule
- Next Steps
- Proactive Municipal and Community Outreach throughout Project Duration
- Contact Information

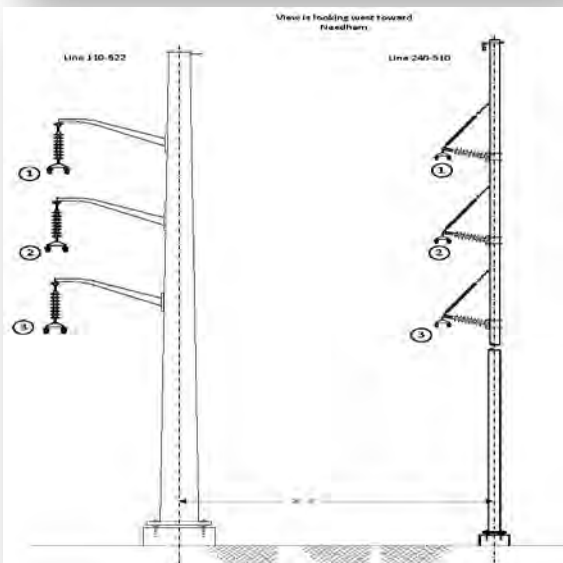
- A strong electrical transmission grid is vital to the safety, security, and economic prosperity of the region. The transmission system serves a critical role to ensure that electricity flows with a high degree of reliability to where power is needed.
- In a recent study, ISO-New England, the independent system operator for New England, concluded that there are inadequate transmission resources to serve the electricity needs in the Greater Boston and Southern New Hampshire area.
- To proactively address these deficiencies and the growing customer demands on the electric system, ISO-New England has directed utilities to implement a series of transmission projects as needed.
- One of the projects to come out of the solution to solve the identified system reliability problems is the DCT (Double Circuit Tower) separation of two 115-kV circuits between West Roxbury and Needham.

West Roxbury to Needham Reliability Project Project Need & Benefits



- Eversource's transmission system is not able to maintain supply to approximately 65,000 customers in the western Boston suburbs under certain operating conditions.
- Separating the existing 115-kV DCT overhead transmission lines between the Baker Street Substation and the Needham Substation will mitigate potential area overloads and will significantly reduce the number of customers that are exposed to sustained loss of service.
- Implementing the project will ensure continued compliance with applicable federal and regional transmission reliability standards and criteria, and will maintain reliable 115-kV electric service to several area substations serving the 115-kV systems in the western Boston suburbs.

West Roxbury to Needham Reliability Project Overview



- The proposed project involves a combination of overhead (OH) and underground (UG) transmission line construction.
- The DCT separation work will involve relocating ~1.6 miles of existing overhead transmission line onto new sets of structures (steel monopoles) directly offset ~28-feet north or south of the existing structures on existing Eversource right-of-way in Boston, Dedham and Needham (up to Valley Road area).

West Roxbury to Needham Reliability Project

Overview (continued)



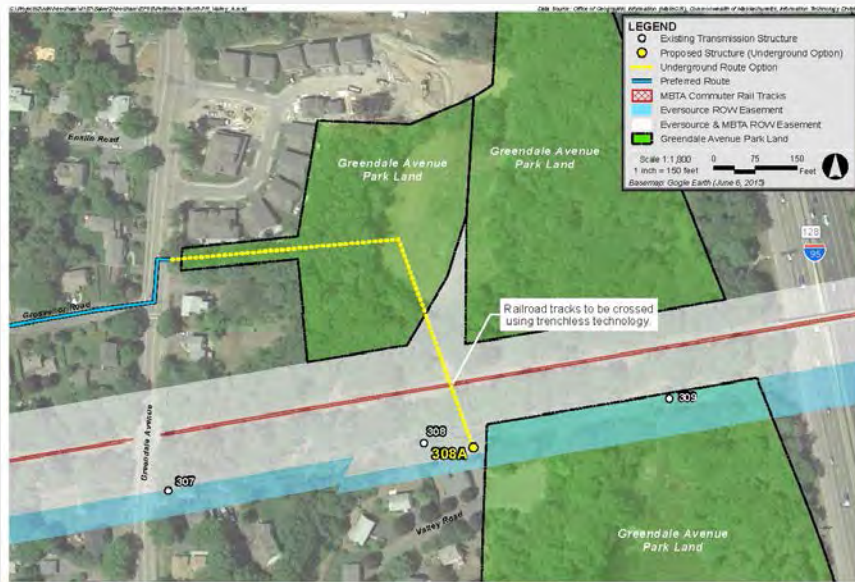
- The balance of the DCT separation work will involve ~2.5 miles of new underground cable construction located primarily in public streets in the Town of Needham (generally between Valley Road area and Chestnut Street).
- The existing support arms and one set of wires will likely be removed from the existing steel monopole structures between the OH/UG transition point at Valley Road area and Needham Substation.
- No significant substation work required for the Project (no fence line expansion or removal of existing equipment is required).

West Roxbury to Needham Reliability Project

Overview (continued)

- The eastern half of the routing study area is dramatically different from the western half (remote undeveloped areas located in DCR's Cutler Park, I-95 and commercial industrial areas in the City of Boston vs. densely developed residential neighborhoods in the Town of Needham).
- In consultation with Town officials, Eversource made a concerted effort to avoid or minimize impacts to the residential neighborhoods directly abutting the MBTA railroad tracks and Eversource ROW in the Town of Needham, including transitioning from overhead line construction on existing ROW to underground cable construction in public roads at the first possible location where such transition work could potentially occur (Valley Road).

West Roxbury to Needham Reliability Project Overview (continued)



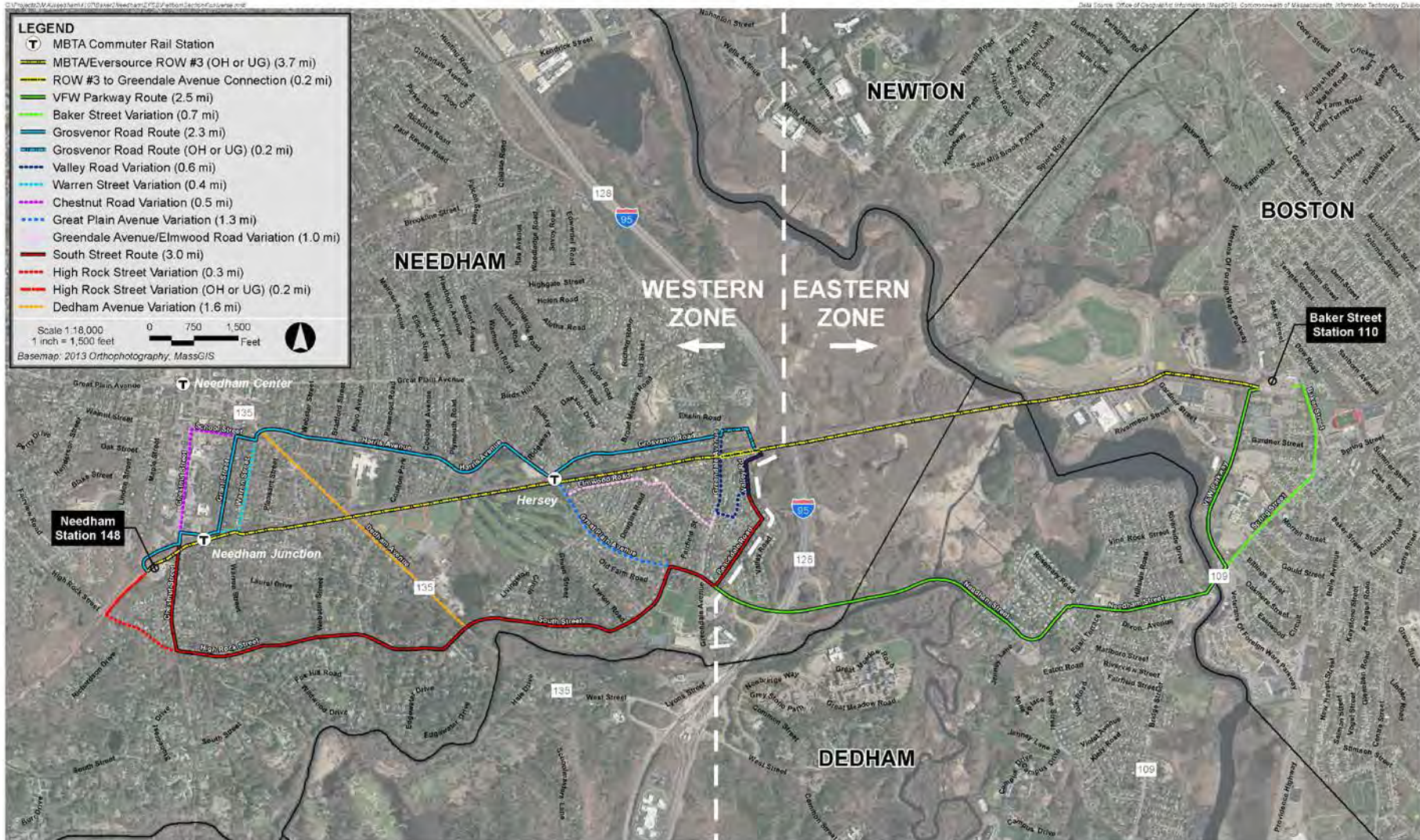
- Pending Town approval, the potential proposed OH/UG transition point is located at the end of the Valley Road cul-de-sac heading north or south across the Greendale Avenue park land towards Greendale Avenue.
- The transmission line across the northern parcel would cross under or over the MBTA railroad tracks.

West Roxbury to Needham Reliability Project

Route Analysis Process

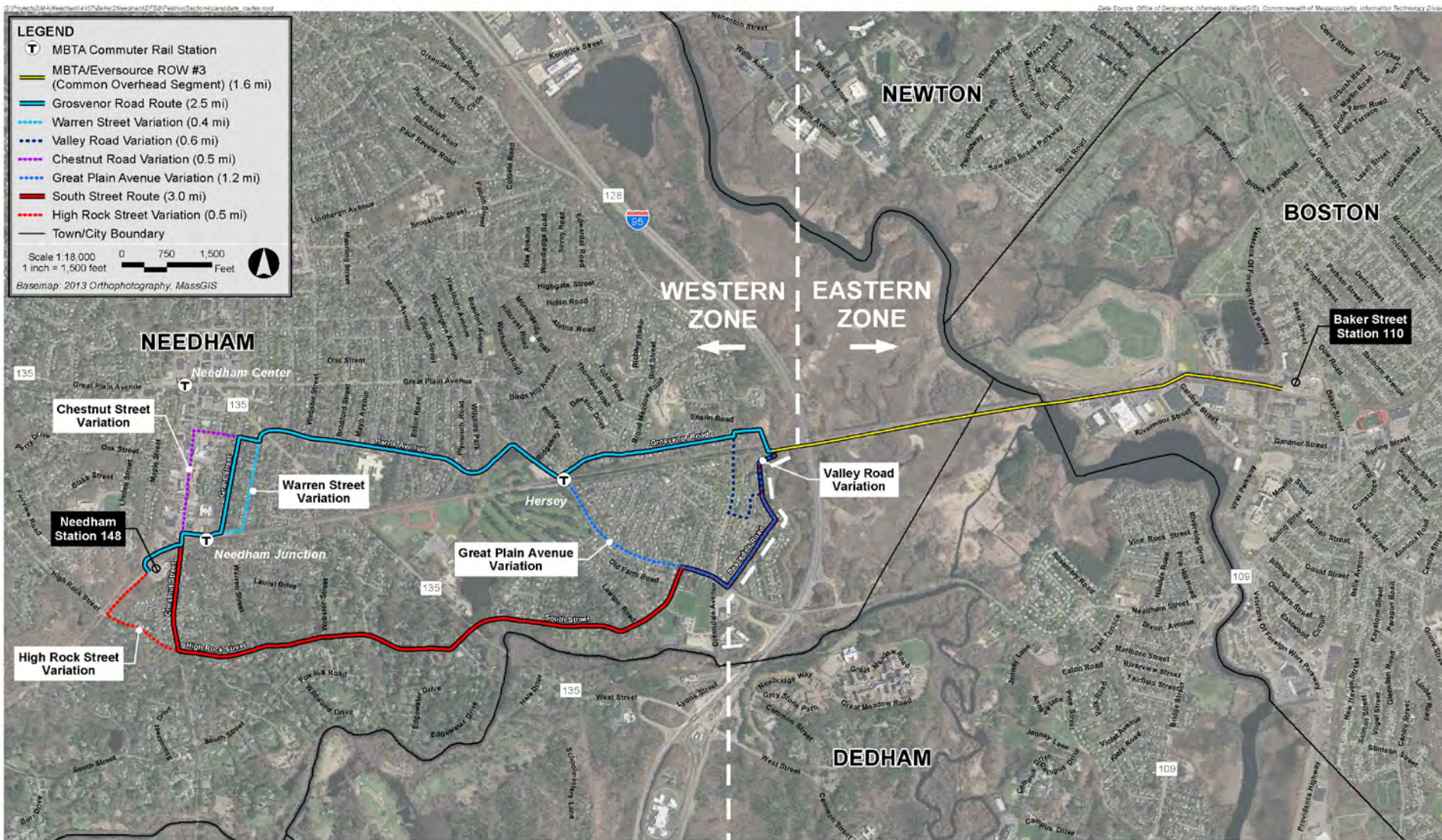
- Eversource, with environmental consultant Epsilon Associates, Inc. established route selection guidelines to identify all potentially feasible routes between the Baker Street and Needham substations (**“Universe of Routes”**).
- Routes with obvious flaws were eliminated.
- The **“Candidate Routes”** were evaluated, scored and ranked by applying environmental, constructability, community impact, and conceptual cost estimate criteria.
- Eversource used the scoring and ranking system to select a **“Preferred Route”** and a potential **“Noticed Alternative Route”**, as such terms are used by the Energy Facilities Siting Board.

West Roxbury to Needham Reliability Project Universe of Routes Considered



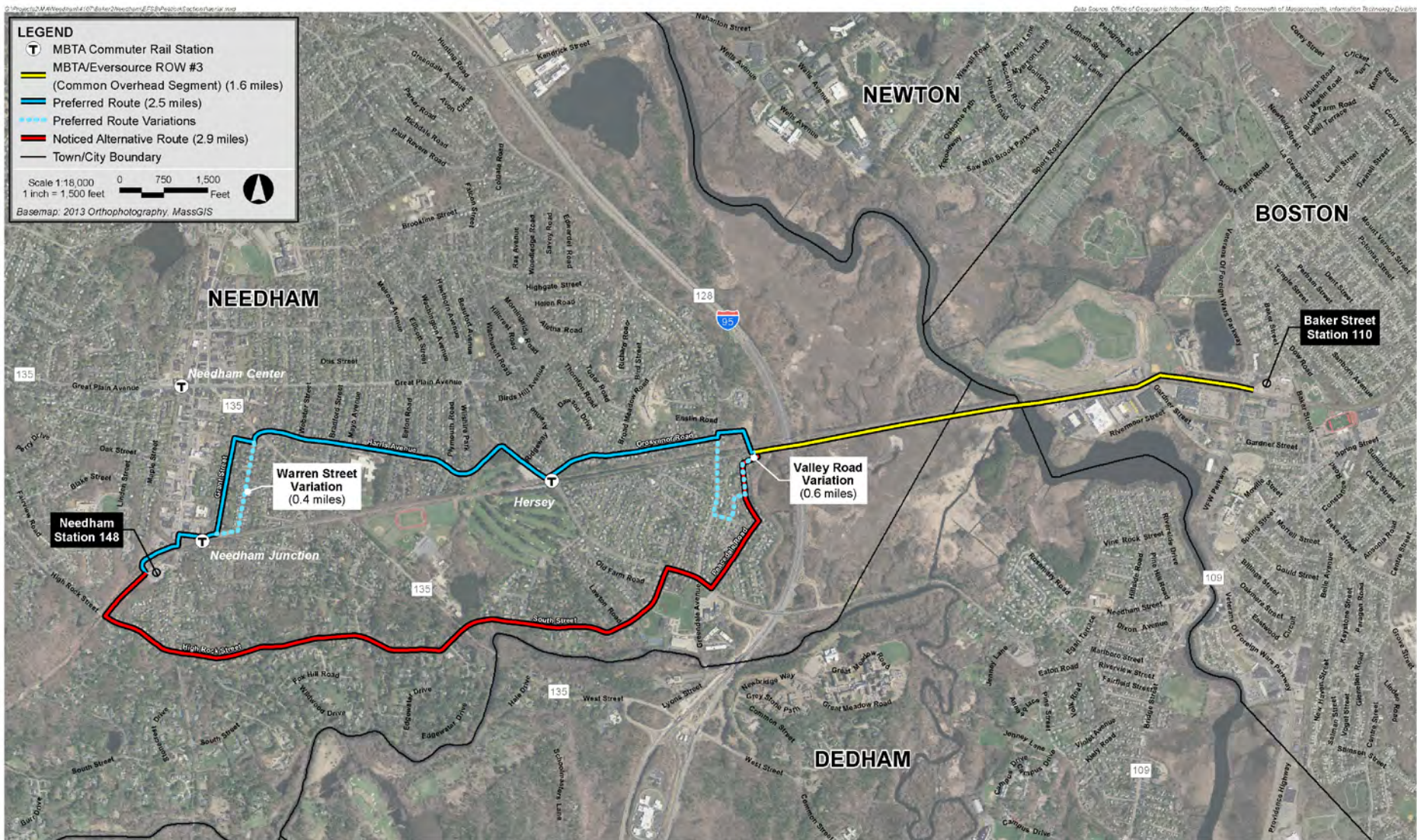
West Roxbury to Needham Reliability Project

West Roxbury to Needham Reliability Project Candidate Routes Selected for Scoring



West Roxbury to Needham Reliability Project

West Roxbury to Needham Reliability Project Preferred and Noticed Alternative Route



Preferred UG Route (~2.5 miles)

- Greendale Avenue (via Greendale Ave. park land)
- Grosvenor Road
- Broad Meadow Road
- Great Plain Avenue
- Harris Avenue
- School Street
- Grant Street
- Junction Street
- Chestnut Street

Potential Variations to Preferred Route

- Valley Road (via Greendale Ave. park land)
- Intervale Road
- Warren Street (in lieu of Grant Street)

Noticed Alternative UG Route (~3.0 miles)

- Valley Road (via Greendale Ave. park land)
- Peacedale Road
- Great Plain Avenue
- South Street
- High Rock Street
- West end of ROW to Needham Substation (via High Rock Street)

West Roxbury to Needham Reliability Project

Typical In-Street Construction Process

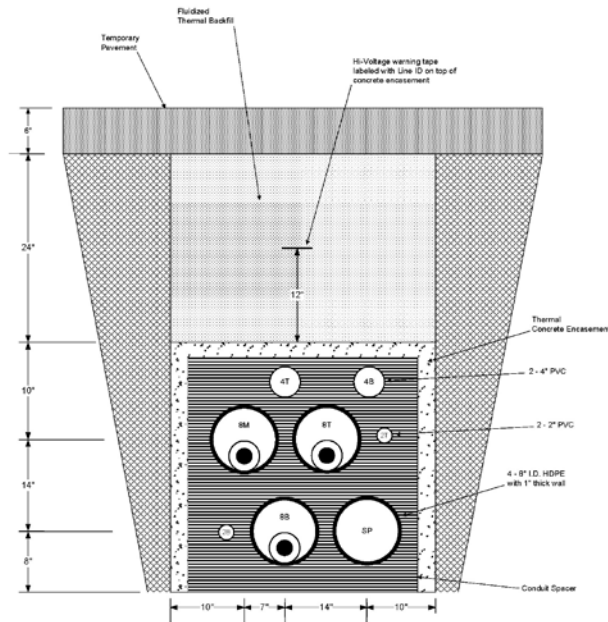


- Splice Vault/Manhole installation
- Trench excavation, conduit installation, backfill and temporary paving.
- Install cables between each manhole.
- Cable splicing and testing in manholes.
- Final pavement and other Project restorations completed per municipal town agreements.
- Minor construction at substations will be concurrent with cable construction.

West Roxbury to Needham Reliability Project

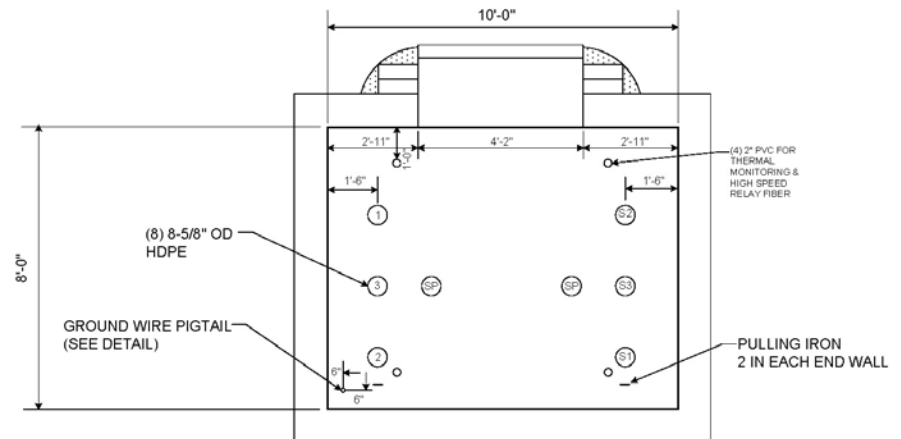
Typical Cross-Sections

Cable Installation



3' x 3' along the underground route

Splice Vault/Manhole



10' tall x 12' wide x 30' long
(approx. 1500'-1800' apart along the underground route)

Managing Impacts During Construction

- Traffic Management
 - ✓ Traffic Management Plan to be developed jointly with municipalities.
 - ✓ Police details paid by Project
 - ✓ Maintaining access
 - ✓ Hours of Construction
 - ✓ Maintain pedestrian safety
- Eversource will communicate and work closely with neighbors in the communities throughout the process by providing:
 - ✓ Door-to-door outreach
 - ✓ Informational mailings via town certified abutting property owner list
 - ✓ Project website with progress updates
 - ✓ Project hotline and e-mail



MUTCD TEMPORARY TRAFFIC CONTROL ROAD SIGNS

ROAD WORK AHEAD W20-1	DETOUR AHEAD W20-2	ROAD CLOSED AHEAD W20-3	ONE LANE ROAD AHEAD W20-4	END DETOUR M4-BA	Culloden Rd DETOUR M4-SL (CS)	Custer St DETOUR M4-SL (CS)	Sheridan St DETOUR M4-SL (CS)																								
ROAD CLOSED R11-2	ROAD CLOSED TO THRU TRAFFIC R11-4	LEFT LANE MUST TURN LEFT R3-7	SIDEWALK CLOSED USE OTHER SIDE R3-10	DETOUR M4-10L	DETOUR M4-SR (CS)	DETOUR M4-SR (CS)	DETOUR M4-SR (CS)																								
PRELIMINARY NOT FOR CONSTRUCTION				<table border="1"> <thead> <tr> <th colspan="4">REVISIONS DURING CONSTRUCTION</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>08-28-11</td> <td>ISSUED FOR REVIEW</td> <td>DMF</td> </tr> <tr> <td>2</td> <td>09-05-11</td> <td>ISSUED FOR REVIEW</td> <td>DMF</td> </tr> <tr> <td>3</td> <td>09-05-11</td> <td>ISSUED FOR REVIEW</td> <td>DMF</td> </tr> <tr> <td>4</td> <td>09-05-11</td> <td>ISSUED FOR REVIEW</td> <td>DMF</td> </tr> </tbody> </table>				REVISIONS DURING CONSTRUCTION				NO.	DATE	DESCRIPTION	BY	1	08-28-11	ISSUED FOR REVIEW	DMF	2	09-05-11	ISSUED FOR REVIEW	DMF	3	09-05-11	ISSUED FOR REVIEW	DMF	4	09-05-11	ISSUED FOR REVIEW	DMF
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Northeast Utilities Service Co.
CONNECTICUT LIGHT & POWER COMPANY

LINE 1151 SOUTH END - GLENBROOK
115-kV UNDERGROUND TRANSMISSION LINE
TRAFFIC CONTROL GENERAL NOTES
STAMFORD, CONNECTICUT

DATE: 08-21-2013
SCALE: 1" = 100'
PROJECT: 23370P1
DRAWN: 000-51-200
01515-70001PG01

West Roxbury to Needham Reliability Project

Typical Overhead Line Construction



West Roxbury to Needham Reliability Project

Environmental Permitting

- Local Conservation Commissions
- State Review and Permitting:
 - MEPA
 - Mass Historic Commission
 - Natural Heritage Endangered Species Program
 - Mass DEP Water Quality
- Federal Review and Permitting:
 - Army Corps of Engineers
 - US Fish and Wildlife Service
 - US Environmental Protection Agency

West Roxbury to Needham Reliability Project

Next Steps



- Conduct **Open Houses** to gather community input. All abutters to the the proposed routes will be invited to the open houses.
 - **March 23, 2016:** Boston Elks, Post 1 Morell Street, West Roxbury (drop in between 7 and 9 p.m.)
 - **March 30, 2016:** Performance Space at Broadmeadow School, Needham (drop in between 7 and 9 p.m.)
- File an application with the Energy Facilities Siting Board (EFSB) and an ENF with MEPA – **April 2016**. After we file, the EFSB will conduct a local public hearing, offering additional opportunity for community input. Abutters will be notified. MEPA will also hold a scoping session and publish notice for comment in Environmental Monitor.
- Assuming receipt of all necessary permits and approvals, construction of the transmission line is anticipated to commence in **2017**.
- Construction is anticipated to occur over an 18-month period, and to be completed by the end of **2018**.

Proactive Municipal and Community Outreach Throughout Project Duration

Stakeholders

- Municipal officials
- State and federal elected officials and agencies
- Property owners & tenants
- Businesses
- Community Groups

Project Communication for Municipalities

- Briefings & Presentations

Project Communication for the Public

- News Releases/Media Advisories
- Door to door outreach, including door hangers
- Transmission 1-800-Hotline
- Project e-mail
- Customer letters



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